☑ NO EXCEPTIONS TAKEN
☐ REJECTED
☐ SUBMIT SPECIFIED ITEM
☐ REVISE AND RESUBMIT
☐ MAKE CORRECTIONS AS NOTED

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. All actions shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

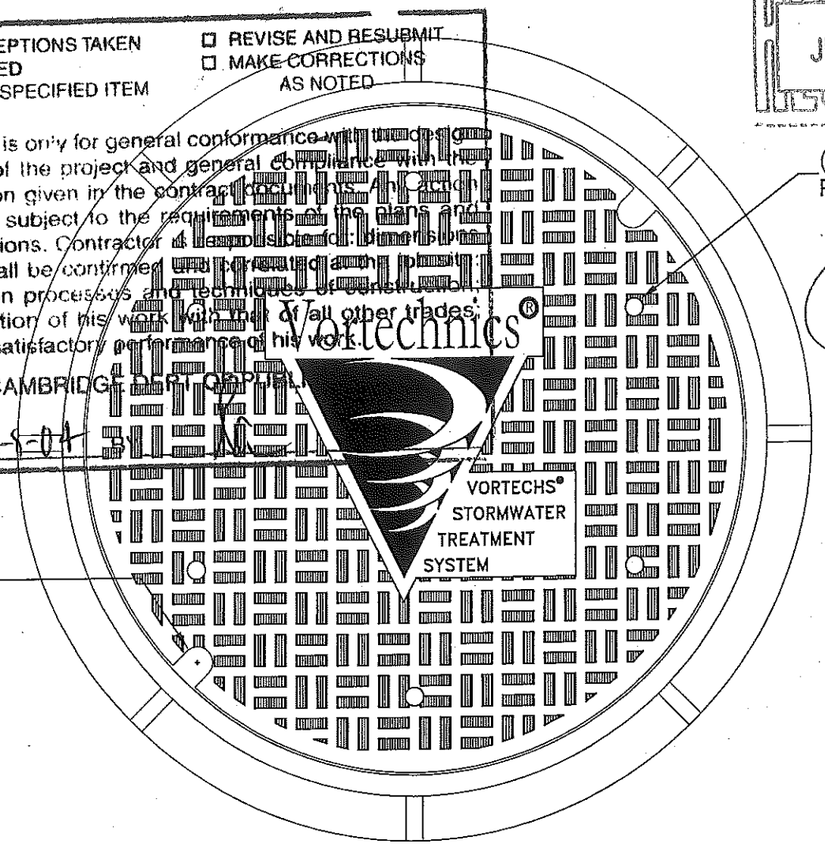
CAMBRIDGE DEPT. APPROVAL

DATE 6-8-04 BY

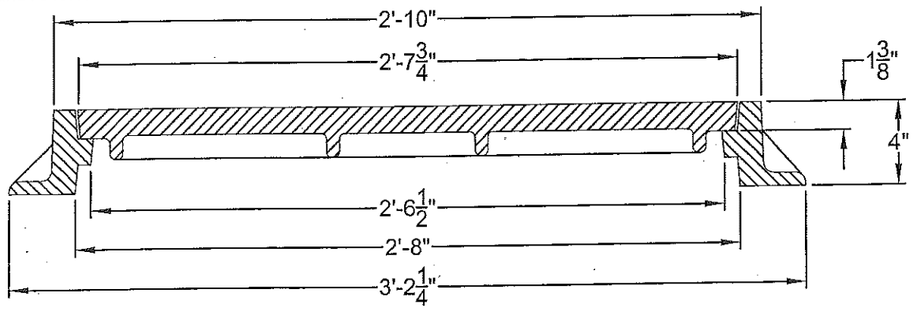
RECEIVED
JUN – 2 2004

(6) 3/4" DIA. PERFORATIONS

03411



MATERIAL: Gray iron conforming to ASTM A48, CL.30B and AASHTO M105



This drawing shows the general configuration of the casting or castings to be supplied. Dimensions are approximate and may vary. Drawings should not be scaled where there are no dimensions shown.

Weight of casting(s), when shown, is based on final dimensions and is estimated only.

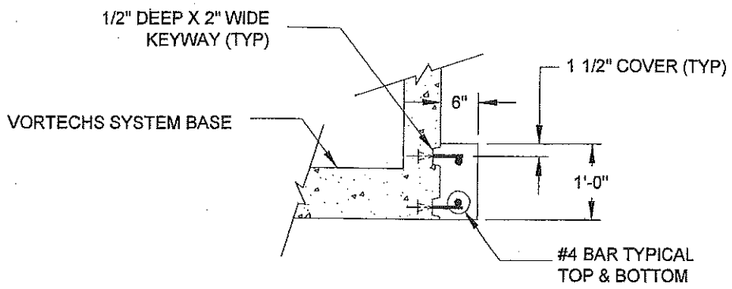
There are no representations made concerning the suitability of the design of the materials specified since the manufacturer has no control whatsoever upon final construction or installation of the product herein set forth.

1012D

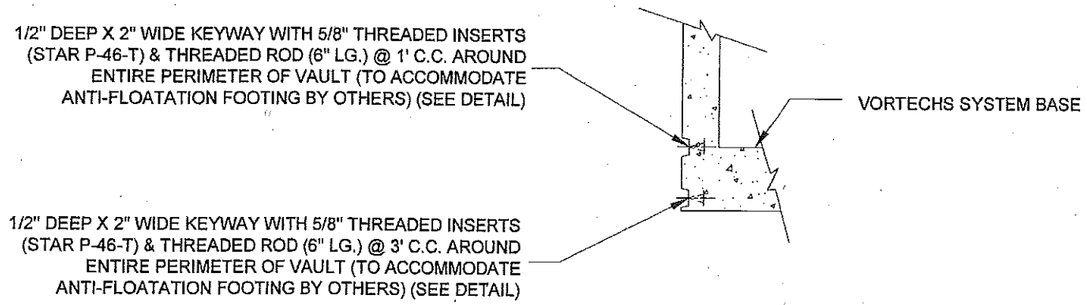
Vortechnics®
200 Enterprise Drive
Scarborough, ME 04074
Tel.: 207-885-9830
Fax: 207-885-9825

VORTECHS SYSTEM - 30" DIA. x 4" H MH FRAME AND COVER AASHTO HS20-44 HIGHWAY LOADING

DATE: 01/23/02	SCALE: NONE	FILE NAME: 30CMPBL4D	DRAWN BY: DMF	CHECKED BY: NDG



TYPICAL ANTI-FLOATATION COLLAR
(CAST-IN-PLACE COLLAR BY OTHERS)



TYPICAL COLLAR ATTACHMENT INSERTS

NOTE: VORTECHNICS SHALL PROVIDE THREADED INSERTS AND REINFORCING STEEL.
PURCHASER OF VORTECHS SYSTEM SHALL PROVIDE CAST-IN-PLACE COLLAR INCORPORATING REINFORCING STEEL.

RTND

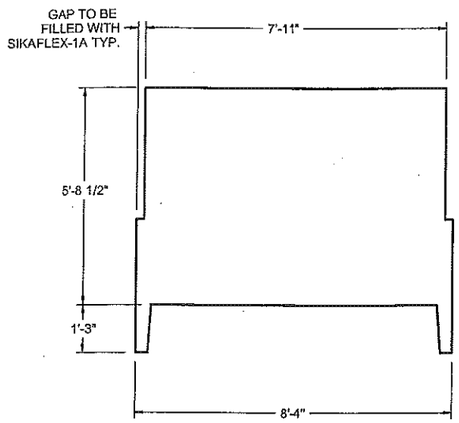
Vortechnics®
200 Enterprise Drive
Scarborough, ME 04074
Tel.: 207-885-9830
Fax: 207-885-9825

PROPOSED ANTI-FLOATATION COLLAR DETAILS
6" WIDE X 1'-0" DEEP CAST-IN-PLACE
VORTECHS® STORMWATER TREATMENT SYSTEM

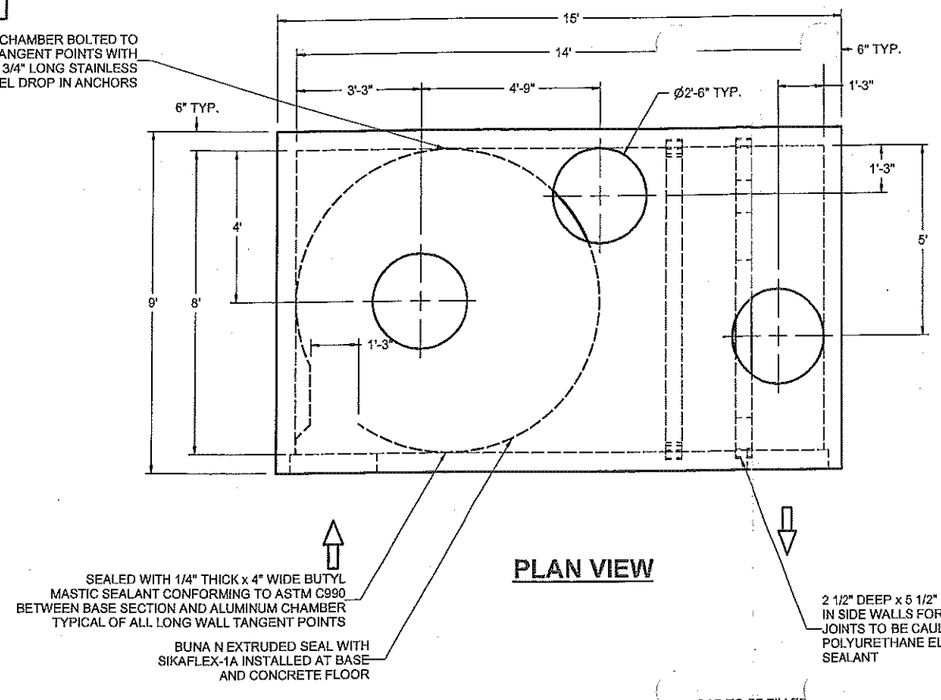
DATE:	SCALE:	FILE NAME:	DRAWN BY:	CHECKED BY:
5/07/03	None	FLTCLR6	DMF	NDG

PIPE OPENINGS SHALL BE STENCILED "INLET" OR "OUTLET" AS APPROPRIATE

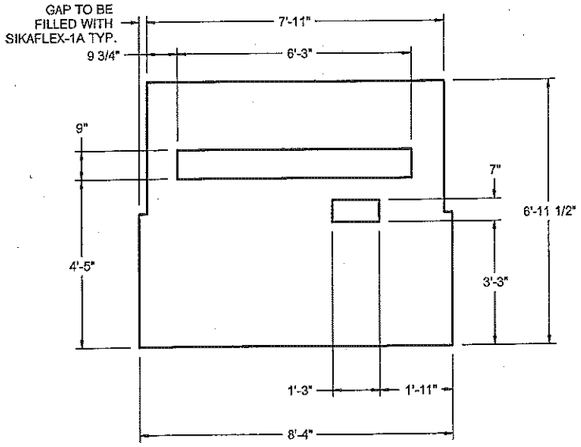
INLET PIPE MUST BE SET AT 90° TO SYSTEM WALL



BAFFLE A
(VIEWED FROM DOWNSTREAM)



PLAN VIEW



BAFFLE B
(FLOW CONTROL PLATES NOT SHOWN FOR CLARITY)
(VIEWED FROM DOWNSTREAM)

DESIGN NOTES:

1. CONCRETE MINIMUM STRENGTH - 5,000 PSI AT 28 DAYS
2. STEEL REINFORCEMENT - ASTM A-615, GRADE 60 - 1" MIN. COVER REFER TO ROTONDO PRECAST DRAWING 7 K-0-5
3. DESIGN LOADING - AASHTO HS20-44
4. CONSTRUCTION JOINTS - SEALED WITH 1" DIA. BUTYL RUBBER
5. DESIGN SPECIFICATION - ACI 318 AASHTO LOAD FACTOR DESIGN METHOD

ASSUMPTIONS:

1. GROUND WATER ELEVATION AT TOP OF TANK
2. EARTH COVER VARIES FROM 0'-0" MIN. TO 5'-0" MAX
3. 2'-0" LIVE LOAD SURCHARGE APPLIED TO 8'-0" DEPTH
4. LIVE LOAD IMPACT 0" TO 1'-0" COVER I = 30%
5. COEFFICIENT OF ACTIVE EARTH PRESSURE Ka = 0.33
6. DRY EARTH DENSITY 120 PCF
   DRY EARTH LATERAL PRESSURE = 120 PCF (0.33) = 39.6 PSF
7. SATURATED EARTH DENSITY 120 PCF
   120 PCF - 62.4 = 57.6 PCF; 57.6 PCF (0.33) = 19.0 PSF

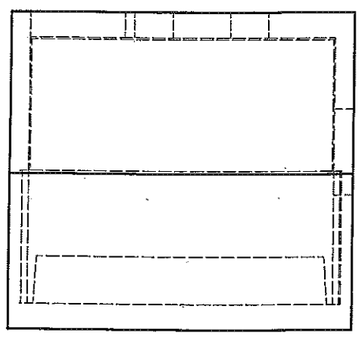
GENERAL NOTES:

1. INTERNAL COMPONETNTS SHALL BE FABRICATED OF ALUMINUM ALLOY 5052-H32 IN ACCORDANCE WITH ASTM B209

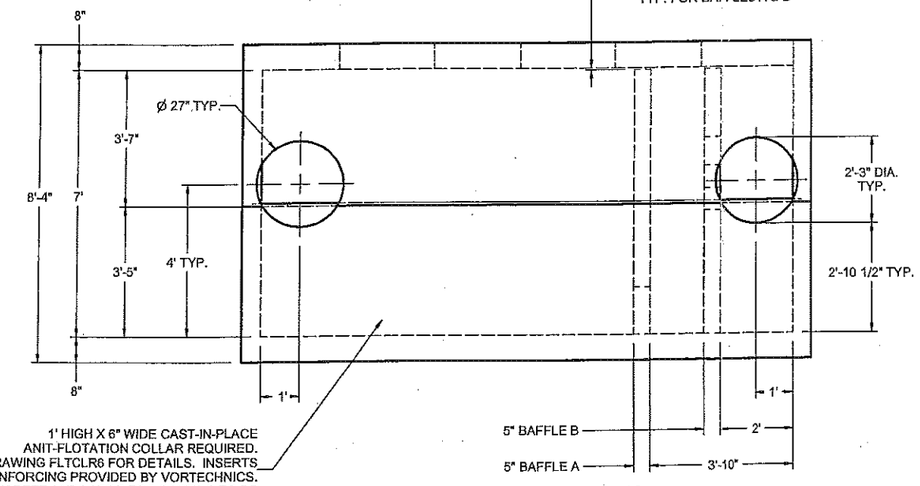
2. MANHOLE RISERS, GRADE RINGS OR BLOCK REQUIRED BETWEEN TOP OF THE VORTECHS SYSTEM AND THE BASE OF THE MANHOLE FRAMES SHALL BE TH RESPONSIBILITY OF OTHERS AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STANDARDS

3. FLOW CONTROL PLATE(S) TO BE SUPPLIED BY VORTECHNICS AND INSTALLED ON THE INLET FACE OF BAFFLE B. ORIFICE PLATE OPENING IS TO BE CENTERED HORIZ. & VERT. OVER LOWER CONCRETE OPENING. WEIR PLATE OPENING IS TO BE CENTERED HORIZ. & VERT. OVER UPPER CONCRETE OPENING.

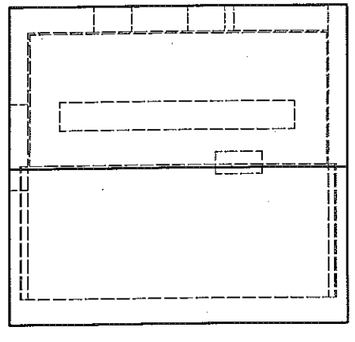
4. THE WATER SURFACE ELEVATION IN THE VORTECHS SYSTEM IS EXPECTED TO BE AT OR BELOW INSIDE TOP OF VAULT DURING THE DESIGN STORM



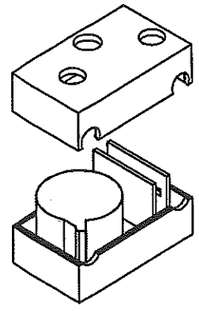
LEFT SIDE VIEW



ELEVATION VIEW
(SWIRL CHAMBER NOT SHOWN FOR CLARITY)



RIGHT SIDE VIEW



ASSEMBLY
NOT INTENDED TO DEPICT DELIVERY CONFIGURATION

WEIGHT AND DELIVERY INFORMATION

VORTECHS SYSTEM IS DELIVERED IN TWO (2) PIECES

HEAVIEST PICK IS 19 TONS (APPROXIMATE)

-COMPONENTS-

TOP SECTION = 14 TONS
BASE SECTION = 14 TONS
(2) BAFFLES = 2 TONS EACH
ALUMINUM CHAMBER = 1 TON

BASE SECTION IS DELIVERED WITH BAFFLES AND ALUMINUM CHAMBER INSTALLED

RTND-A

(3) 30" DIA MANHOLE FRAMES AND PERFORATED COVERS SHALL BE PROVIDED BY VORTECHNICS AND SHALL BE CAMPBELL CASTING #1012D, CAST WITH THE VORTECHNICS LOGO.

PROJECT #2055 SYSTEM INFORMATION

RIM ELEVATION +/-
TOP OF TANK ELEVATION = 8.22'
INLET PIPE INVERT = 3.60'
INLET PIPE = 18" RCP
OUTLET PIPE INVERT = 3.60'
OUTLET PIPE = 18" RCP
OUTSIDE BOTTOM OF TANK ELEVATION = -0.12'

REVISION	
REV	DESCRIPTION

CAMBRIDGE COMMON MANHOLE REMOVAL
CAMBRIDGE, MA
STORMWATER TREATMENT SYSTEM
VORTECHS® MODEL 7000 U.S. PATENT No. 5,759,415

Vortechnics®
200 Enterprise Drive
Scarborough, ME 04074
Tel.: 207-885-9830
Fax: 207-885-9825

SCALE:	1/4" = 1'-0"
DRAWN BY:	SEP
CHECKED BY:	WSG
FILE NAME:	2055S
DATE:	05/20/04